

Attorney's Docket No.: 10559-187002//P8090C - ADI
ADP2798-2-US

Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Canceled).

2. (Currently Amended) A The method comprising: of in
~~claim 1,~~

loading a value related to a tentative minimum distortion
between two image regions into each of a plurality of
accumulating elements;

accumulating the value with results of subsequent image
distortion calculations using said accumulating elements; and
initiating an early exit scheme when at least one of said
accumulating elements reach a predetermined value different than
the value.

~~wherein there are a plurality of said accumulating~~
~~elements, and said loading comprises loading said value into~~
~~each of said accumulating elements.~~

3. (Original) The method of claim 2, wherein said
initiating occurs when fewer than all accumulating elements of

Attorney's Docket No.: 10559-197002//P8090C - ADI
ADP2798-2-US

said plurality of accumulating elements reach said predetermined value.

4. (Original) The method of claim 2 wherein said initiating occurs when all of said plurality of accumulating elements reach said predetermined value.

5. (Original) The method of claim 2 wherein said initiating occurs when only a single accumulating element reaches said predetermined value.

6. (Original) The method of claim 2 further comprising determining a character of the regions, and determining, from said character, a number of accumulating elements to require to reach said predetermined value before said initiating.

7. (Original) The method of claim 6, wherein said character of the image indicates a homogeneous image, and said initiating is based on results from a single accumulating element.

Attorney's Docket No.: 10559-187002//P8090C - ADI
ADP2798-2-US

8. (Original) The method of claim 6, wherein said initiating comprises initiating said early exit scheme based on results from plural accumulating elements.

9. (Original) The method of claim 8 wherein said early exit scheme comprises determining probabilities of each of the accumulating elements establishing certain states, and said initiating is based on said accumulating elements establishing said certain states.

10. (Currently Amended) The method of claim 2, wherein said predetermined value is zero.

11. (Currently Amended) The method of claim 2, wherein said value is related to a minimum distortion in a previous calculation.

12. (Canceled).

13. (Currently Amended) A The method of processing image parts comprising:
obtaining image distortion information about a first image part; and

Attorney's Docket No.: 10559-187002//P8090C - ADI
ADP2798-2-US

using said image distortion information to process a second part, by loading a value related to said image distortion information into a calculating element, and terminating a calculation performed by said calculating element when a current accumulated value reaches a predetermined amount different than the value; claim 12 wherein said image distortion information includes a tentative minimum of distortion measured in a block motion search.

14. (Currently Amended) The method of claim 13 ~~12~~ wherein said image distortion information is used to process the second part using a sum of absolute differences device with an accumulator.

15. (Original) The method of claim 14 wherein said value is loaded into the accumulator.

16. (Currently Amended) The method of claim 13 ~~12~~ wherein said predetermined amount is 0.

17. (Currently Amended) The method of claim 13 ~~12~~, further comprising determining that said value has reached said

predetermined amount by monitoring a sign bit of the accumulator.

18. (Canceled).

19. (Currently Amended) An The apparatus, comprising:
a plurality of calculating devices, each including an
accumulator element, each calculating device operable to receive
a non-zero initial value related to a tentative minimum
distortion, each calculating device operable to further receive
distortion data and to accumulate the distortion data with the
initial value using the accumulator element;
a buffer, to store the initial value, and to load said
initial value into an accumulator element for each of the
plurality of calculating devices; and
a logic unit, to establish a minimum distortion based on a
value in at least one of the accumulator elements.

~~claim 18, wherein there are a plurality of said calculating~~
~~devices, and said initial value is loaded into each of said~~
~~accumulating elements.~~

20. (Original) An apparatus, comprising:
a video acquiring device;

a plurality of calculating devices, each including an accumulator element, each of the calculating devices to receive a non-zero initial value related to a tentative minimum distortion, each of the calculating devices to further receive distortion data for two video portions acquired by said video acquiring device and to accumulate the distortion data with the initial value using the associated accumulator element;

a buffer, to store the initial value related to the tentative minimum distortion, and to load said initial value into said accumulator elements; and

a logic unit, to establish a minimum distortion based on one or more values among said accumulator elements.

21. (Original) The apparatus of claim 20 wherein said logic unit is to monitor sign bits of said accumulator elements.

22. (Original) The apparatus of claim 20 wherein said logic unit is to monitor a current value in at least one of said accumulator elements.

23. (Original) The apparatus of claim 20, wherein said video acquiring device is a video camera.

24. (Original) The apparatus of claim 22, wherein said logic unit is to monitor a current value in all of said plurality of accumulating elements and to determine when one or more of said current values corresponds to a predetermined value.

25. (Original) A method of determining a minimum distortion between a source image region of an image and a plurality of search image regions, comprising:

loading a value related to a tentative minimum distortion between the source image region and the plurality of search image regions into one or more accumulators;

initiating a distortion calculation between the source image region and a first search image region of the plurality of search image regions, wherein the distortion calculation comprises:

calculating a differential distortion amount between the source image region and the first search image region; and

accumulating the differential distortion amount with the value to produce an accumulated distortion amount; and

Attorney's Docket No.:10559-187002//P8090C - ADI
ADP2798-2-US

initiating an early exit of the distortion calculation if the accumulated distortion amount has a predetermined relationship with an exit amount.

26. (Original) The method of claim 25, wherein the exit amount is zero.

27. (Original) The method of claim 25, wherein the predetermined relationship is that the accumulated distortion amount is greater than the exit amount.

28. (Original) The method of claim 25, wherein the predetermined relationship is that the accumulated distortion amount is less than the exit amount.

29. (Original) The method of claim 25, wherein the predetermined relationship is that the accumulated distortion amount is equal to the exit amount.

30. (Original) The method of claim 25, further comprising: completing the distortion calculation if the accumulated distortion amount does not have the predetermined relationship with the exit amount, wherein completing the distortion

calculation comprises determining a different tentative minimum distortion amount.

31. (Original) The method of claim 30, further comprising:
loading a value related to the different tentative minimum distortion between the source image region and the plurality of search image regions; and
initiating a distortion calculation between the source image region and a second search image region of the plurality of search image regions.

32. (Original) The method of claim 30, further comprising:
determining a minimum distortion between the source image region and the plurality of search image regions based on distortion calculations between the source image region and each of the plurality of search image regions.

33. (Original) The method of claim 32, wherein the distortion calculations between the source image region and each of the plurality of search image regions are performed using a plurality of accumulators.

34. (Original) The method of claim 33, wherein each of the distortion calculations are performed using one of the plurality of accumulators.

35. (Original) The method of claim 33, wherein at least one of the distortion calculations is performed using more than one of the plurality of accumulators.

36. (Original) The method of claim 33, further comprising:
determining a characteristic of the image; and
determining whether to perform each of the distortion calculations using one of the plurality of accumulators or to perform at least one of the distortion calculations using more than one of the plurality of accumulators based on the characteristic of the image.

37. (Original) The method of claim 36, wherein the characteristic of the image is the homogeneity of the image.

38. (Original) The method of claim 36, wherein the characteristic of the image is a spatial frequency characteristic of a difference between a source image region and one of the plurality of search image regions.

Attorney's Docket No.:10559-187002//P8090C - ADI
ADP2798-2-US

39. (New) A method comprising:

loading a value related to a tentative minimum distortion
between two image regions into an accumulating element;
accumulating the value with results of subsequent image
distortion calculations using said accumulating element; and
initiating an early exit scheme when said accumulating
element reaches zero.

40. (New) A method comprising:

loading a value related to a tentative minimum distortion
between two image regions into an accumulating element;
accumulating the value with results of subsequent image
distortion calculations using said accumulating element; and
initiating an early exit scheme when said accumulating
element reaches a predetermined value different than the value;
wherein said value is related to a minimum distortion in a
previous calculation.

41. (New) A method of processing image parts comprising;
obtaining image distortion information about a first image
part; and

using said image distortion information to process a second part, by loading a value related to said image distortion information into a calculating element, and terminating a calculation performed by said calculating element when a current accumulated value reaches a predetermined amount different than the value;

wherein said image distortion information is used to process the second part using a sum of absolute differences device with an accumulator.

42. (New) A method of processing image parts comprising; obtaining image distortion information about a first image part; and

using said image distortion information to process a second part, by loading a value related to said image distortion information into a calculating element, and terminating a calculation performed by said calculating element when a current accumulated value reaches zero.

43. (New) A method of processing image parts comprising; obtaining image distortion information about a first image part; and

Attorney's Docket No.: 10559-187002//P8090C - ADI
ADP2798-2-US

using said image distortion information to process a second part, by loading a value related to said image distortion information into a calculating element, determining that said value has reached a predetermined amount different than said value by monitoring a sign bit of the accumulator, and terminating a calculation performed by said calculating element when a current accumulated value reaches the predetermined amount.